AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-75. (canceled)

76. (currently amended) A method of indexing occurrences of a value in at least one data record

using a bit vector comprising:

associating a first bit vector with a first value to be held in a first field;

associating a second bit vector with a second value to be held in said first field;

~~calculating a first count to account for values associated with said first field;~~

associating a third bit vector with a third value to be held in a second field;

~~calculating a second count to account for values associated with said second field;~~

performing a first logical "AND" operation on said first bit vector with said third bit vector to

yield a first result Boolean value wherein said first logical "AND" operation terminates

upon achieving a first successful match on a bit by bit basis;

performing a second logical "AND" operation on said second bit vector with said third bit vector

to yield a second result Boolean value wherein said second logical "AND" operation

terminates upon achieving a second successful match on a bit by bit basis; ~~and,~~

storing said first result Boolean value and said second result Boolean value as a value limit

correlation wherein said value limit correlation comprises a first index having a first

dimension sized to ~~said first count~~a first number of distinct values held in said first field

and a second index having a second dimension sized to ~~said second count~~a second

number of distinct values held in said ~~third~~ second field irregardless of a total data record

count~~.~~; and,

determining if at least one record in a database exists wherein said at least one record comprises

both said first value in said first field and said third value in said second field by

accessing said value limit correlation and without accessing said database and without

accessing said first, said second or said third bit vectors.

77. (currently amended) A method of indexing occurrences of a value in at least one data record

using a bit vector comprising~~The method of claim 76 further comprising~~:

associating a first bit vector with a first value to be held in a first field;

associating a second bit vector with a second value to be held in said first field;

associating a third bit vector with a third value to be held in a second field;

performing a first logical "AND" operation on said first bit vector with said third bit vector to

yield a first result Boolean value wherein said first logical "AND" operation terminates

upon achieving a first successful match on a bit by bit basis;

performing a second logical "AND" operation on said second bit vector with said third bit vector

to yield a second result Boolean value wherein said second logical "AND" operation

terminates upon achieving a second successful match on a bit by bit basis;

storing said first result Boolean value and said second result Boolean value as a value limit

correlation wherein said value limit correlation comprises a first index having a first

dimension sized to a first number of distinct values held in said first field and a second

index having a second dimension sized to a second number of distinct values held in said

third field irregardless of a total data record count;

determining if at least one record in a database exists wherein said at least one record comprises

both said first value in said first field and said third value in said second field by

accessing said value limit correlation and without accessing said database and without

accessing said first, said second or said third bit vectors;

changing said first value in said first field in a first data record to said second value;

inverting a first bit in said first bit vector to represent a false value at a first bit vector position

corresponding to said first data record;

inverting a second bit in said second bit vector to represent a true value at said first bit vector

position corresponding to said first data record;

setting a Boolean true value in said value limit correlation at said first index corresponding to

said second value and at said second index corresponding to said third value;

~~performing a third logical "AND" operation on said first bit vector with said third bit vector to~~

~~yield a third result Boolean value wherein said third logical "AND" operation terminates~~

~~upon achieving a third successful match;~~

performing a ~~fourth~~ third logical "AND" operation on said ~~second~~ first bit vector with said third

bit vector to yield a ~~fourth~~ third result Boolean value wherein said ~~fourth~~ third logical

"AND" operation terminates upon achieving a ~~fourth~~ third successful match; and,

setting a Boolean false value in said value limit correlation at said first index corresponding to

said first value and at said second index corresponding to said third value if said

performing said third logical "AND" operation yields a false third result Boolean value.

~~updating entries in said value limit correlation having said first index equal to said first value and said second value and having said second index equal to said third value in said second field in said first data record.~~